

Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269



Scaled data based on original data using  
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P1055730

Luminaire Tested: S123R3DR-H1165D935-X4F0-XX-UDD-FLL-W

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1055730  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-4)  
Test Lab: INNOVATION CENTER  
Issue Date: 7/25/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S123R3DR-H1165D935-X4F0-XX-UDD-FLL-W  
Description: DEFINE 3, WHITE 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 3500K CCT, 90 CRI LEDS  
Ballast/Driver: -

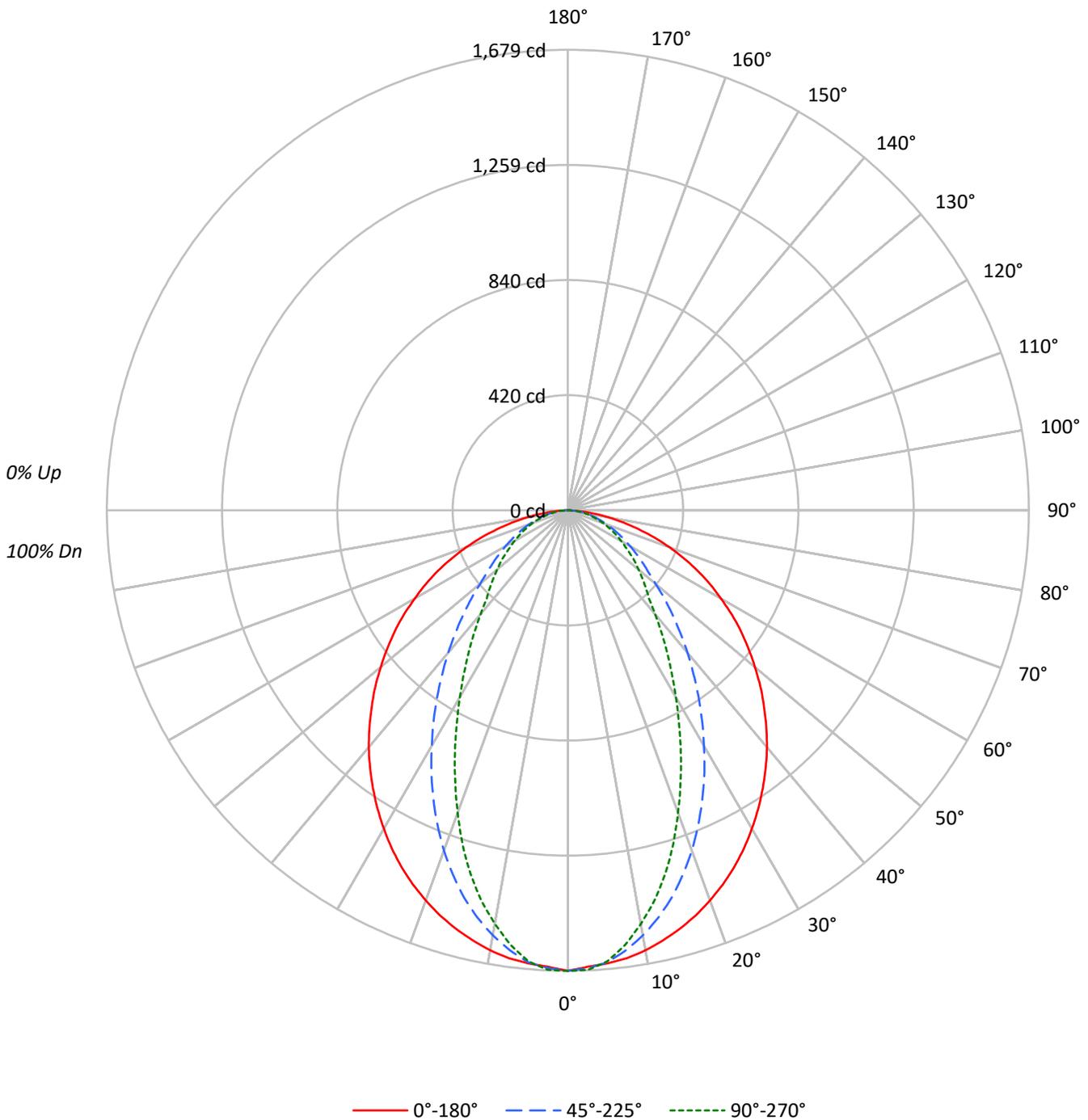
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2945.4 lumens  
Efficiency: N/A  
Efficacy: 80.5 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 0.83 / 1.02  
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 36.6  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT

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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20					20					20					20					20					
RC	80					70					50					30					10					0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100					100			
1	110	106	102	99	107	104	100	97	99	97	94	96	93	91	92	90	88	86					86			
2	101	94	88	83	99	92	87	82	89	84	80	85	82	78	83	79	76	74					74			
3	93	84	77	71	91	82	76	70	80	74	69	77	72	68	74	70	67	65					65			
4	86	75	68	61	84	74	67	61	72	65	60	70	64	59	67	63	59	57					57			
5	80	68	60	54	78	67	60	54	65	58	53	63	57	53	62	56	52	50					50			
6	75	62	54	48	73	61	54	48	60	53	48	58	52	47	57	51	47	45					45			
7	70	57	49	43	68	56	49	43	55	48	43	53	47	43	52	47	42	40					40			
8	65	53	45	39	64	52	44	39	51	44	39	49	43	39	48	43	39	37					37			
9	61	49	41	36	60	48	41	36	47	40	36	46	40	35	45	39	35	34					34			
10	58	45	38	33	56	45	38	33	44	37	33	43	37	33	42	37	33	31					31			

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	20248	20248	20248
5°	20066	20021	19975
10°	19945	19268	18746
15°	19707	18250	17121
20°	19420	16938	15052
25°	19083	15423	12950
30°	18659	13798	10947
35°	18211	12201	9243
40°	17753	10655	7769
45°	17219	9188	6854
50°	16680	7821	6291
55°	16185	6970	5808
60°	15507	6301	5421
65°	14872	5768	5089
70°	13861	5312	4784
75°	12405	4914	4505
80°	10637	4534	4187
85°	7470	4164	3998

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 17219 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	155.7	5.3
10°-20°	411.9	14.0
20°-30°	542.6	18.4
30°-40°	550.7	18.7
40°-50°	478.7	16.3
50°-60°	375.0	12.7
60°-70°	254.8	8.7
70°-80°	138.1	4.7
80°-90°	38.0	1.3
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	1110.1	37.7
0°-40°	1660.8	56.4
0°-60°	2514.5	85.4
0°-90°	2945.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2945.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1679	1679	1679	1679	1679	
5°	1658	1678	1654	1639	1650	157
15°	1579	1556	1462	1390	1372	445
25°	1434	1348	1159	1015	974	660
35°	1237	1090	829	671	628	774
45°	1010	810	539	416	402	779
55°	770	535	332	283	276	687
65°	521	289	202	181	178	515
75°	266	133	106	98	97	284
85°	54	33	30	28	29	68
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1679.4	1679.4	1679.4	1679.4	1679.4
2.5°	1665.6	1686.9	1670.6	1671.9	1676.9
5°	1658.0	1678.1	1654.3	1639.2	1650.5
7.5°	1646.7	1661.8	1617.8	1594.0	1597.8
10°	1629.2	1634.2	1573.9	1536.2	1531.2
12.5°	1605.3	1596.5	1521.1	1465.9	1457.1
15°	1578.9	1556.3	1462.1	1390.5	1371.7
17.5°	1548.8	1511.1	1393.0	1305.1	1276.2
20°	1513.6	1460.8	1320.2	1208.4	1173.2
22.5°	1475.9	1408.1	1241.0	1109.1	1072.7
25°	1434.5	1347.8	1159.4	1014.9	973.5
27.5°	1389.2	1287.5	1076.5	922.0	875.5
30°	1340.3	1224.7	991.1	831.5	786.3
32.5°	1290.0	1158.1	909.4	747.4	703.4
35°	1237.3	1090.3	829.0	670.8	628.0
37.5°	1183.2	1021.2	751.1	597.9	557.7
40°	1128.0	950.9	677.0	530.1	493.6
42.5°	1068.9	880.5	605.4	466.0	438.4
45°	1009.9	810.2	538.9	415.8	402.0
47.5°	950.9	738.6	476.1	380.6	368.0
50°	889.3	669.5	417.0	347.9	335.4
52.5°	829.0	601.7	368.0	316.5	307.7
55°	770.0	535.1	331.6	282.6	276.3
57.5°	708.4	469.8	295.2	256.2	248.7
60°	643.1	407.0	261.3	228.6	224.8
62.5°	584.1	347.9	231.1	204.7	201.0
65°	521.3	288.9	202.2	180.9	178.4
67.5°	457.2	239.9	175.9	158.3	157.0
70°	393.2	202.2	150.7	136.9	135.7
72.5°	330.4	167.1	126.9	118.1	115.6
75°	266.3	133.1	105.5	98.0	96.7
77.5°	208.5	103.0	84.2	79.1	77.9
80°	153.2	76.6	65.3	61.5	60.3
82.5°	100.5	52.8	46.5	44.0	44.0
85°	54.0	32.7	30.1	27.6	28.9
87.5°	18.8	13.8	13.8	12.6	13.8
90°	0.0	0.0	0.0	0.0	0.0



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**CIE UGR TABLE:**

Reflectances:											
Ceiling		0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
Wall		0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
Reference plane		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions		Viewed crosswise					Viewed endwise				
X=2H	Y=2H	21.01	22.50	21.37	22.81	23.13	16.16	17.65	16.52	17.96	18.28
	3H	22.90	24.23	23.27	24.56	24.92	17.79	19.12	18.16	19.45	19.81
	4H	23.65	24.91	24.05	25.26	25.64	18.42	19.68	18.82	20.03	20.41
	6H	24.22	25.38	24.63	25.74	26.14	18.91	20.07	19.32	20.44	20.83
	8H	24.39	25.49	24.82	25.88	26.28	19.08	20.19	19.51	20.58	20.98
	12H	24.49	25.54	24.92	25.93	26.35	19.21	20.26	19.64	20.65	21.08
4H	2H	21.06	22.31	21.46	22.66	23.04	16.89	18.14	17.29	18.49	18.87
	3H	23.07	24.12	23.48	24.52	24.92	18.71	19.75	19.12	20.15	20.55
	4H	23.89	24.83	24.32	25.25	25.68	19.45	20.39	19.89	20.81	21.25
	6H	24.57	25.39	25.03	25.83	26.29	20.06	20.88	20.52	21.32	21.78
	8H	24.80	25.57	25.27	26.01	26.48	20.28	21.04	20.74	21.49	21.95
	12H	24.95	25.64	25.44	26.12	26.59	20.45	21.13	20.93	21.61	22.08
8H	4H	23.91	24.68	24.38	25.12	25.59	19.84	20.60	20.30	21.04	21.51
	6H	24.64	25.27	25.14	25.77	26.24	20.57	21.20	21.06	21.69	22.17
	8H	24.91	25.48	25.43	25.99	26.48	20.85	21.42	21.37	21.93	22.42
	12H	25.12	25.62	25.63	26.11	26.68	21.10	21.60	21.61	22.09	22.66
12H	4H	23.90	24.58	24.38	25.06	25.53	19.89	20.57	20.37	21.05	21.52
	6H	24.63	25.19	25.14	25.70	26.19	20.65	21.21	21.16	21.72	22.21
	8H	24.93	25.43	25.44	25.92	26.49	21.00	21.49	21.51	21.99	22.55